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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,278	10/31/2003	Timothy L. Hillstrom	10030466-1	1611

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
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EXAMINER

TSAI, CAROL S W

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,278

Applicant(s)

HILLSTROM, TIMOTHY L.

Examiner

Carol S Tsai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim, 16, it is not understandable what is meant by "said signal" since it is not clear to the Examiner what the said signal is intended.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims 1-15 recite no clearly defined practical application of the claimed method or do not draw a conclusion as to the final end result of configuring of a vector network analyzer (VNA) being directed toward a practical application. The examiner submits that the claimed method merely manipulates an abstract idea without limitation to a practical application.

The claims 16-21 recite no clearly defined practical application of the claimed system or do not draw a conclusion as to the final end result of providing a visual display and a user interface and processing said signal for graphic presentation on said visual display being directed toward a practical application. The examiner submits that the claimed system merely manipulates an abstract idea without limitation to a practical application.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 16-20, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 4,816,767 to Cannon et al.

Cannon et al. discloses a system for concurrent frequency and time domain reflectometry measurements of an electromagnetic device, said system comprising: a vector network analyzer (VNA) providing a visual display and a user interface and a processor associated with said VNA, said processor operable to process said signal for graphic presentation on said visual display (see col. 4, line 43 to col. 5, line 25 and col. 14, lines 18-63).

As to claim 17, Cannon et al. also disclose a user-scrollable visual display marker having a recognizable shape (see Figs. 5-17 and col. 11, lines 8-61).

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As to claim 18, Cannon et al. also discloses a coaxial cable and an RF connector for communicatively coupling a signal from said electromagnetic device to said VNA (see col. 15, lines 55-63).

As to claim 19, Cannon et al. also disclose said processor being capable of performing VNA state control and vector mathematical operations (see col. 7, lines 7-15).

As to claim 20, Cannon et al. also disclose said processor being internal to said VNA (see col. 7, lines 48-59).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 4,630,228 to Tarczy-Hornoch et al. in view of U. S. Patent No. 6,437,578 to Gumm.

Milroy et al. disclose a method of using a transmission line analyzer for coordinated Voltage Standing-Wave Ratio (VSWR) and Time Domain Reflectometry (TDR) measurement, said method comprising configuring said transmission line analyzer for identifying discontinuities correlated to a Voltage Standing-Wave Ratio (VSWR) lobe (see col. 1, line 62 to col. 2, line 2; col. 2, 39 to col. 3, line 61).

Tarczy-Hornoch et al. do not disclose a vector network analyzer (VNA).

Gumm teaches a vector network analyzer (VNA) (see Abstract, lines 10-12).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tarczy-Hornoch et al.'s method to include a vector network analyzer (VNA), as taught by Gumm, in order that amplitude and phase of the network's transmission coefficient or reflection coefficient of the device under test for a plurality of test signal frequencies can be measured.

8. Claim 21, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Cannon et al. in view of U. S. Patent No. 5,656,932 to Kitayoshi.

As noted above, Cannon et al. disclose the claimed invention, except for an algorithm that generates a visual display of desired coherent, canceling, and orthogonal electromagnetic reflection discontinuities in response to said concurrent time and frequency domain reflectometry measurements.

Kitayoshi teach an algorithm that generates a visual display of desired coherent, canceling, and orthogonal electromagnetic reflection discontinuities in response to said concurrent time and frequency domain reflectometry measurements (see Fig. 1; col. 5, lines 35-47; and col. 17, lines 1-50; and col. 17, line 64 to col. 18, line 59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cannon et al.'s system to include an algorithm that generates a visual display of desired coherent, canceling, and orthogonal electromagnetic reflection discontinuities in response to said concurrent time and frequency domain reflectometry measurements, as taught by Kitayoshi, in order that the results of the hologram reconstruction calculation and the delay value can be displayed.

Allowable Subject Matter

9. Claims 2-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Adamian discloses a method and system of calibrating first and second adapters comprises the steps of calibrating coaxial ports of a vector network analyzer to traceable standards and connecting a symmetrical through circuit path between the coaxial ports.

Logvinov et al. disclose fault detection and power network quality monitoring being performed for a power line network using power line communications ("PLC") signal transceiving and data processing capabilities.

Noe discloses a reflection measurement method and apparatus measuring reflection characteristics of a device under test (DUT) when access to the DUT is through a dispersive element.

Hill discloses a frequency domain measurement device multi-phase modulating an RF frequency signal with a broadband signal, such as a pseudo random number, to produce an RF spread spectrum signal that encompasses a frequency range of interest.

Noe discloses a network analyzer being capable of measuring the antenna return loss in a

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live cellular network.

Page et al. disclose a communication system using a reflected signal to determine the location of an impedance mismatch along a transmission path.

Karl et al. disclose a method for taking measurements using a vector network analyzer (VNA) enables a reduction in interference created when the VNA is operated in the presence of external signals.

Bradley discloses a variable termination load switch being provided to enable transmission and group delay measurements to be made of a device under test (DUT) using only one port of a vector network analyzer (VNA).

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which

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require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

A handwritten signature in black ink, appearing to read "Carol S. W. Tsai". The signature is fluid and cursive, with the last name "Tsai" being particularly prominent.

Carol S. W. Tsai
Patent Examiner
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02/02/05